

**REMARKS**

Claims 1, 3-8, 10-11, 13-14, 16-20 and 38-40 are pending and under examination.

Claims 2, 9, 12 and 15 are cancelled without prejudice.

Claims 21-37 and 40 are withdrawn.

***Claim Rejection under 35 U.S.C. §112, first paragraph***

Claim 4 was rejected under 35 U.S.C. §112, first paragraph, for allegedly failing to comply with the written description requirement.

The Examiner alleges that “Only phytotoxic pesticides are now in the composition, but claim 4 includes non-phytotoxics. Claims should be limited to those that are phytotoxic.” Office Action, pg. 2, lines 16-17.

According to MPEP §2163.04, the burden is on the Examiner with regard to whether the written description requirement has been met. See MPEP §2163.04. Specifically, “The examiner has the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in an applicant’s disclosure a description of the invention defined by the claims.” MPEP §2163.04 (citing *In re Wertheim*, 541 F.2d 257, 263 (CCPA 1976)). In rejecting a claim, the examiner must set forth express findings of fact which support the lack of written description conclusion. MPEP §2163.04.

The Applicant respectfully submits that the Examiner has failed to meet the initial burden of establishing that the written description requirement has not been satisfied. The Applicant submits that the Examiner’s unsupported statement that “Only phytotoxic pesticides are now in the composition, but claim 4 includes non-phytotoxics” is insufficient to establish a *prima facie* case for lack of written description. No express findings of fact were presented, as required by MPEP §2163.04. Specifically, the

Examiner has not indicated which pesticides are phytotoxic and which pesticides are non-phytotoxic. As such, the Applicant submits that a *prima facie* case for lack of written description has not been established by a preponderance of the evidence, and respectfully request that the 35 U.S.C. §112, first paragraph, rejection of Claim 4 be withdrawn.

***Claim Rejection under 35 U.S.C. §103***

Claims 1, 3-8, 10, 11, 13, 14, 16, 18-20, 38 and 39 have been rejected under 35 U.S.C. §103(a) as allegedly being unpatentable over Harmon (U.S. Patent No. 3,558,787) in view of Klopping (U.S. Patent No. 3,789,122) and Beaty (U.S. Patent No. 5,634,959).

In order to meet its burden in establishing a rejection under 35 U.S.C. §103, the Office must first demonstrate that a prior art reference, or references when combined, teach or suggest all claim elements. See e.g., *KSR Int'l Co. v. Teleflex Inc.*, 127 S.Ct. 1727, 1740 (2007); *Pharmastem Therapeutics v. Viacell et al.*, 491 F.3d 1342, 1360 (Fed. Cir. 2007); MPEP § 2143(A)(1). In addition to demonstrating that all the elements were known in the prior art, the Office must also articulate a reason for combining the elements. See e.g., *KSR*, 127 S.Ct. at 1741; *Omegaflex, Inc. v. Parker-Hannifin Corp.*, 243 Fed. Appx. 592, 595-596 (Fed. Cir. 2007) (citing *KSR*). Further, the Supreme Court in *KSR* also stated that that “a court *must* ask whether the improvement is more than the predictable use of prior art elements according to their established functions.” *KSR*, 127 S.Ct. at 1740 (emphasis added). As such, in addition to showing that all elements of a claim were known in the prior art and that one of skill had a reason to combine them, the Office must also provide evidence that the combination would be a predicted success.

In making this rejection, the Examiner alleges that “Applicant has not provided any objective evidence of criticality, nonobvious or unexpected results that the

administration of the particular ingredients' or concentrations provides any greater or different level of prior art expectation as claimed, and the use of ingredient for the functionality for which they are known to be used is not basis for patentability." Office Action, pg. 4-5, bridging paragraph.

The Applicant respectfully disagrees and contends that the claimed compositions are more than the predictable use of prior art elements according to their established functions. Unexpected results have been shown as indicated in the Specification, as follows:

The inventor of the subject invention has discovered that the subject pesticide compositions (i.e., pesticide compositions that include one or more of: an assimilable carbon skeleton energy component, a macronutrient component, a micronutrient component, a vitamin/cofactor component and a complexing agent) provide unexpected, beneficial results when administered to a plant. More specifically, the inventor of the subject invention has realized that, when applied to a plant, the subject pesticide compositions provide subtle to significant increases in a plant's protection from pesticide-induced phytotoxicity, relative to the administration of a pesticide alone or rather without any of the additional phytotoxic-reducing components, where in certain instances phytotoxic effects are completely eliminated.

Specification, pg. 6, ¶ [0018].

In addition, objective evidence of these unexpected results is included in the Experimental section of the application. The Experimental section presents the results of several experiments comparing the effects on plant growth between plants treated with pesticide only and plants treated with the claimed compositions. Specification, pg. 35-41. Specifically, Example IIA shows that embodiments of the claimed composition mitigated insecticide-induced phytotoxicity in tomato plants, resulting in 174% improvement in growth and appearance compared to plants treated with pesticide only. Specification, pg. 36, Results Table. Additionally, Example IIA also demonstrates that embodiments of the claimed composition have no phytotoxic effects compared to plants treated with fertilizer only. Specification, pg. 36, Results Table.

Moreover, the Experimental section also presents objective evidence of the

mitigation of bactericide-fungicide phytotoxicity in mung bean plants. Specification, pg. 37-38. Experiments in Example IIB showed a 186% increase in plant growth and appearance compared to plants treated with pesticide only. Specification, pg. 38, Results Table. Additional objective evidence of the mitigation of fungicide phytotoxicity by embodiments of the claimed composition is also presented in Example IIC of the Experimental section. Specification, pg. 38-39. Here, experiments showed a 195% increase in plant growth and appearance compared to plants treated with pesticide only. Specification, pg. 39, Results Table. Further objective evidence of the mitigation of fungicide phytotoxicity by embodiments of the claimed composition is shown in Example IID of the Experimental section. Specification, pg. 40-41. The results in Example IID show that embodiments of the claimed composition increase plant growth and appearance by 225% compared to plants treated with pesticide only. Specification, pg. 40-41, Results Table.

Accordingly, the Applicant contends that sufficient objective evidence has been presented to demonstrate that the claimed composition is more than merely the predictable use of prior art elements according to their established functions. As such, the Applicant submits that the claimed composition is not obvious over the references cited by the Examiner, and respectfully request that this rejection be withdrawn.

Additionally, the Applicant contends that a *prima facie* case of obviousness has not been established because there is no apparent reason that would have prompted a person of ordinary skill in the relevant field to combine the references in the manner suggested by the Examiner.

In *KSR*, the Supreme Court made clear that, "a patent composed of several elements is not proved obvious merely by demonstrating that each of its elements was, independently, known in the prior art. . . . it can be important to identify a reason that would have prompted a person of ordinary skill in the relevant field to combine the elements in the way the claimed new invention does." *KSR*, 127 S. Ct. at 1741. The

Supreme Court further explained that, "it will be necessary for a court to look to interrelated teachings of multiple patents . . . in order to determine whether there was an apparent reason to combine the known elements in the fashion claimed by the patent at issue. To facilitate review, this analysis should be made explicit." *KSR*, 127 S. Ct. at 1740-1741, citing *In re Kahn*, 441 F.3d 977, 988 (Fed. Cir. 2006). In addition, mere statements that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness. MPEP §2143.01(IV). A statement that modifications of the prior art to meet the claimed invention would have been "well within the ordinary skill of the art at the time the claimed invention was made" because the references relied upon teach that all aspects of the claimed invention were individually known in the art is not sufficient to establish a *prima facie* case of obviousness without some objective reason to combine the teachings of the references. *Ex parte Levengood*, 28 USPQ2d 1300 (BPAI 1993). "[R]ejections on obviousness cannot be sustained by mere conclusory statements; instead, there must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness." *KSR*, 127 S. Ct. at 1740-1741, quoting *In re Kahn*, 441 F.3d at 988.

In making this rejection, the Examiner alleges that Harmon discloses phytotoxic pesticides, fungicides, insecticides, nematocides in combination with nutrients and fertilizers. Office Action, pg. 3, lines 5-13. However, the Examiner concedes that Harmon fails to disclose or suggest a co-factor. Office Action, pg. 3, line 14. In an attempt to remedy this deficiency, the Examiner cites Klopping and asserts that Klopping discloses copper and zinc as co-factors and micronutrients. Office Action, pg. 3, lines 14-17.

As a suggested reason to combine the references, the Examiner states as follows:

It would have been obvious to a person of ordinary skill in the art at the time the invention was made desiring to utilize pest control means to protect crop plants, to use any of art recognized means, as of the HARMON, modified as desired to increase stability, dispersibility, compatability of ingredients, processing ease, & reduced toxicity to the plants themselves.

The Applicant respectfully disagrees and contends that the Examiner's mere statement that it would have been obvious "to use any of [the] art recognized means" to modify Harmon as desired to reach the Applicant's claimed invention is insufficient to support a *prima facie* case of obviousness. Harmon only discloses a long list of possible compounds. Harmon, col. 4, line 50 to col. 6, line 32. In addition, Harmon merely suggests that "the use of pesticides such as those listed above in combination with a compound of Formula I sometimes appears to greatly enhance the activity of one or both of the active ingredients." Harmon, col. 6, lines 36-39. However, Harmon provides no guidance to make particular selections from the list of compounds, no understanding as to which compounds are useful, or what properties are desirable.

Similarly, Klopping only provides a long list of agricultural chemicals that may be included in the compositions. Klopping, col. 29, line 53 to col. 31, line 41. Similar to Harmon, Klopping merely states that "The use of pesticides such as those listed above in combination with a compound within the scope of this invention sometimes appears to greatly enhance the activity of the active complex." Klopping, col. 31, lines 46-49. As such, similar to Harmon, Klopping provides no guidance to make particular selections from the list of compounds, no understanding as to which compounds are useful, or what properties are desirable.

Thus, absent an articulated reason with some rational underpinning, there is no apparent reason that would have prompted a person of ordinary skill in the art to

combine Harmon with the disclosure of Klopping. Consequently, because the claimed compositions are more than the predictable use of prior art elements according to their established functions and because there is no apparent reason that would have prompted a person of ordinary skill in the art to combine the references as suggested by the Examiner, the Applicant submits that a *prima facie* case of obviousness cannot be maintained and respectfully requests withdrawal of this rejection.

In addition, as indicated above, the Examiner alleges that Harmon discloses phytotoxic pesticides in combination with nutrients and fertilizers and then cites Klopping as teaching copper and zinc co-factors.

The Applicant respectfully disagrees. Klopping is directed to “complexes formed between transition metal cations and substituted 2-aminobenzamidazoles and to methods of using these complexes to prevent or mitigate damage to plants and inanimate organic materials by fungi and mites.” Klopping, col. 1, lines 22-27. Thus, Klopping discloses that the transition metal cation are complexed with 2-aminobenzamidazole compounds. In contrast, the claimed compositions include water soluble micronutrients and a vitamin/cofactor component. The Specification discloses that, “As the micronutrient components are components that are used by a plant, they are typically water soluble components so as to be in a form that may be easily used by a plant.” Specification, pg. 15, ¶ [0041]. In addition, the Specification discloses that, “As the vitamin/cofactor components are components that are used by a plant, they are typically water soluble components so as to be in a form that may be easily used by a plant.” Specification, pg. 16, ¶ [0050]. Thus, the Applicant contends that the transition metal cations disclosed by Klopping are actually complexed with 2-aminobenzamidazoles and not available to be used by the plant as the cofactors and micronutrients of the presently claimed invention. Consequently, the transition metal cation complexes disclosed in Klopping are not co-factors or micronutrients, as the Examiner contends. Therefore, the Applicant contends that, similar to Harmon, Klopping fails to disclose or suggest a co-factor.

Furthermore, the Applicant contends that there is no apparent reason that would have prompted a person of ordinary skill in the relevant field to combine Beaty with Harmon or Klopping in the manner suggested by the Examiner.

The Examiner contends that Beaty was cited to show fertilizers and nutrients useful to apply to plants. Office Action, pg. 3-4, bridging sentence. However, nowhere does Beaty disclose or suggest combining fertilizers and nutrients with pesticides, as suggested by the Examiner. Beaty is merely directed to fertilizer mixtures.

Moreover, Harmon provides no specific guidance as to the fertilizers that may allegedly be combined with the disclosed phytotoxic pesticides. There is no guidance to make particular selections, and no understanding of which fertilizers would be useful, or what the desired properties of the fertilizers would be. As such, the Applicant submits that there is no apparent reason that would have prompted a person of ordinary skill in the art to combine the teachings of Beaty with the other cited references, as suggested by the Examiner.

Consequently, the Applicant submits that a *prima facie* case of obviousness cannot be maintained and respectfully requests that the 35 U.S.C. §103(a) rejection of Claims 1, 3-8, 10, 11, 13, 14, 16, 18-20, 38 and 39 be withdrawn.



**CONCLUSION**

The Applicant submits that all of the claims are in condition for allowance, which action is requested. If the Examiner finds that a telephone conference would expedite the prosecution of this application, please telephone the undersigned at the number provided.

The Commissioner is hereby authorized to charge any underpayment of fees associated with this communication, including any necessary fees for extensions of time, or credit any overpayment to Deposit Account No. 50-0815, order number YAMA-009.

Respectfully submitted,  
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